

IN THE CLAIMS

1. (Currently amended) A variable transmission window assembly suitable for use as an architectural or vehicular glazing or mirror:

a first substrate having a first transparent conductor coated surface;

a second substrate having a second transparent conductor coated surface, said second substrate positioned in substantially parallel spaced-apart relationship with said first substrate and with said first and second conductor coated surfaces facing each other;

an electrochromic medium disposed between said first and second substrates whereby the transmission of light through said electrochromic medium is changed when an electrical potential is applied thereto and wherein said electrochromic medium comprises a plasticized, cross-linked polymeric solid film formed by curing an electrochromic monomer composition that includes at least one polyfunctional component capable of cross-linking, at least one anodic electrochromic compound, at least one cathodic electrochromic compound and a plasticizer, wherein said anodic electrochromic compound is an organic or organometallic compound and said cathodic electrochromic compound is an organic or organometallic compound; and

wherein the spaced-apart distance between said first substrate and said second substrate is at least about 10 microns.

2 - 27. (Cancelled)

28. (New) The variable transmission assembly according to claim 1, wherein said plasticizer is selected from the group consisting of acetonitrile, benzylacetone, 3-

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hydroxypipronitrile, methoxypipronitrile, 3-ethoxypipronitrile, propylene carbonate, ethylene carbonate, glycerine carbonate, 2-acetylbutyrolactone, cyanoethyl sucrose, 7-butyrolactone, 2-methylglutaronitrile, N,N'-dimethylformamide, 3-methylsulfolane, methylethyl ketone, cyclopentanone, cyclohexanone, 4-hydroxy-4-methyl-2-pantanone, acetophenone, glutaronitrile, 3,3'-oxydipropionitrile, 2-methoxyethyl ether, triethylene glycol dimethyl ether and combinations thereof.

29. (New) The variable transmission assembly according to claim 1, wherein the conductor coated surface of said first substrate is selected from a material selected from the group consisting of indium tin oxide, indium tin oxide full wave, indium tin oxide half wave, indium tin oxide half wave green, tin oxide, antimony-doped tin oxide, fluorine-doped tin oxide, antimony-doped zinc oxide and aluminum-doped zinc oxide.

30. (New) The variable transmission assembly according to claim 1, wherein said assembly is a member selected from the group consisting of a vehicular window, vehicular windshield, vehicular backlight, vehicular interior mirror, vehicular exterior mirror, vehicular sun roof, vehicular sun visor or vehicular shade band.

31. (New) The variable transmission assembly according to claim 1, further comprising a molded casing formed about the periphery of the assembly.

32. (New) The variable transmission assembly according to claim 31, wherein said molded casing comprises an injection molding or a reaction injection molding.

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33. (New) The variable transmission assembly according to claim 1, wherein at least one of said substrates is constructed from tinted glass.

34. (New) The variable transmission assembly according to claim 1, wherein the spaced-apart distance between said first substrate and said second substrate is from about 10 micron to about 1000 micron.

35. (New) The variable transmission assembly according to claim 34, wherein the spaced-apart distance is from about 20 micron to about 200 micron.

36. (New) The variable transmission assembly according to claim 35, wherein the spaced-apart distance is from about 37 micron to about 74 micron

37. (New) The variable transmission assembly according to claims 1, comprising a boundary seal made from a polymeric material.

38. (New) The variable transmission assembly according to claims 37, wherein said polymeric material comprises an epoxy resin, a plasticized polyvinyl butyral, an ionomer resin, a polyamide material, a nitrile containing polymer, or a butyl rubber.

39. (New) The variable transmission assembly according to claims 37, wherein said boundary seal comprises spacers.

40. (New) The variable transmission assembly according to claim 1, wherein said electrochromic monomer composition includes a monomer component selected from the group consisting of acrylated urethanes, acrylated heterocyclics and acrylate resins.

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41. (New) The variable transmission assembly according to claim 1, wherein said electrochromic monomer composition further comprises a component selected from the group consisting of photoinitiators, photosensitizers, ultraviolet stabilizing agents, electrolytic materials, coloring agents, spacers, anti-oxidizing agents, flame retarding agents, heat stabilizing agents, compatibilizing agents, humectants, lubricating agents, adhesion promoting agents, coupling agents and combinations thereof.

42. (New) The variable transmission assembly according to claim 1, wherein said electrochromic monomer composition comprises a cross-linking agent.

43. (New) The variable transmission assembly according to claim 42, wherein said cross-linking agent is selected from the group consisting of polyfunctional hydroxy compounds, polyfunctional primary or secondary amino compounds, polyfunctional mercapto compounds and combinations thereof.

44. (New) The variable transmission assembly according to claim 43, wherein said cross-linking agent comprises a polyfunctional hydroxy compound.

45. (New) The variable transmission assembly according to claim 44, wherein said polyfunctional hydroxy compound comprises a polyol.

46. (New) The variable transmission assembly according to claim 45, wherein said polyol comprises a glycol or a glycerol.

47. (New) The variable transmission assembly according to claim 42, wherein said cross-linking agent is selected from the group consisting of pentaerythritol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, caprolactone triols, and combinations thereof.

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48. (New) The variable transmission assembly according to claim 1, wherein said monomer composition comprises a monomer component which polymerizes by addition polymerization or ring opening polymerization selected from the group consisting of a monofunctional monomer, a difunctional monomer, a trifunctional monomer, a polyfunctional monomer or mixtures thereof.

49. (New) The variable transmission assembly according to claim 48, wherein said monomer component is selected from the group of monomers consisting of 2-hydroxyethyl acrylate, 2-hydroxyethyl methacrylate, methylene glycol monoacrylate, diethylene glycol monomethacrylate, 2-hydroxypropyl acrylate, 2-hydroxypropyl methacrylate, 3-hydroxypropyl acrylate, 3-hydroxypropyl methacrylate, dipropylene glycol monomethacrylate, 2,3-dihydroxypropyl methacrylate, methyl acrylate, ethyl acrylate, n-propyl acrylate, i-propyl acrylate, n-butyl acrylate, s-butyl acrylate, n-pentyl acrylate, 2-ethylhexyl acrylate, methyl methacrylate, ethyl methacrylate, n-propyl methacrylate, i-propyl methacrylate, n-butyl methacrylate, s-butyl methacrylate, n-pentyl methacrylate, s-pentyl methacrylate, methoxyethyl acrylate, methoxyethyl methacrylate, triethylene glycol monoacrylate, glycerol monoacrylate, glycerol monomethacrylate, benzyl acrylate, caprolactone acrylate, cyclohexyl acrylate, cyclohexyl methacrylate, 2-ethoxyethyl acrylate, 2-ethoxyethyl methacrylate, 2-(2-ethoxyethoxy)-ethylacrylate, glycidyl methacrylate, n-hexyl acrylate, n-hexyl methacrylate, isobornyl acrylate, isobornyl methacrylate, i-decyl acrylate, i-decyl methacrylate, i-octyl acrylate, lauryl acrylate, lauryl methacrylate, 2-methoxyethyl acrylate, n-octyl acrylate, 2-phenoxyethyl acrylate, 2-phenoxyethyl methacrylate, stearyl acrylate, stearyl methacrylate, tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, tridecyl methacrylate, 1,4-

butanediol diacrylate, 1,4-butanediol dimethacrylate, 1,3-butylene glycol diacrylate, 1,3-butylene glycol dimethacrylate, diethylene glycol diacrylate, diethylene glycol dimethacrylate, ethylene glycol diacrylate, ethoxylated bisphenol A dimethacrylate, ethylene glycol dimethacrylate, 1,6-hexanediol diacrylate, 1,6-hexanediol dimethacrylate, neopentyl glycol diacrylate, neopentyl glycol dimethacrylate, polyethylene glycol diacrylate, polyethylene glycol dimethacrylate, tetraethylene glycol diacrylate, tetraethylene glycol dimethacrylate, triethylene glycol diacrylate, triethylene glycol dimethacrylate, tripropylene glycol diacrylate, dipentaerythritol pentaacrylate, ethoxylated pentaerythritol triacrylate, pentaerythritol tetraacrylate, trimethylolpropane triacrylate, pentaerythritol triacrylate, trimethylolpropane trimethacrylate, tris(2-hydroxyethyl)-isocyanurate triacrylate, tris(2-hydroxyethyl)-isocyanurate trimethacrylate, polyethylene glycol monoacrylate, polyethylene glycol monomethacrylate, polypropylene glycol monoacrylate, polypropylene glycol monomethacrylate, hydroxyethyl cellulose acrylate, hydroxyethyl cellulose methacrylate, methoxy poly(ethyleneoxy) ethylacrylate, methoxy poly(ethyleneoxy) ethylmethacrylate, ethylene glycol diacrylate, ethylene glycol dimethacrylate, 1,2-butylene dimethacrylate, 1,3-butylene dimethacrylate, 1,4-butylene dimethacrylate, propylene glycol diacrylate, propylene glycol dimethacrylate, dipropylene glycol diacrylate, divinyl benzene, divinyl toluene, diallyl tartrate, allyl maleate, divinyl tartrate, triallyl melamine, glycerine trimethacrylate, diallyl maleate, divinyl ether, diallyl monomethylene glycol citrate, ethylene glycol vinyl allyl citrate, allyl vinyl maleate, diallyl itaconate, ethylene glycol diester of itaconic acid, polyester of maleic anhydride with triethylene glycol, polyallyl glucoses, polyallyl sucroses, glucose dimethacrylate, pentaerythritol tetraacrylate, sorbitol dimethacrylate, diallyl aconitate,

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divinyl citrasonate, diallyl fumarate, allyl methacrylate, 1,3-bis-(4-benzoyl-3-hydroxyphenoxy)-2-propylacrylate, 2-hydroxy-4-acryloxyethoxybenzophenone, 4-methacryloxy-2-hydroxybenzophenone, cyclohexene oxide, cyclopentene oxide, glycidyl i-propyl ether, glycidyl acrylate, furfuryl glycidyl ether, styrene oxide, ethyl-3-phenyl glycidate, 1,4-butanediol glycidyl ether, 2,3-epoxypropyl-4-(2,3-epoxypopoxy) benzoate, 4,4'-bis-(2,3-epoxypopoxy)biphenyl and combinations thereof.

50. (New) The variable transmission assembly according to claim 48, wherein said plasticizer is selected from the group consisting of acetonitrile, benzylacetone, 3-hydroxypropionitrile, methoxypropionitrile, 3-ethoxypropionitrile, propylene carbonate, ethylene carbonate, glycerine carbonate, 2-acetylbutyrolactone, cyanoethyl sucrose, 7-butyrolactone, 2-methylglutaronitrile, N,N'-dimethylformamide, 3-methylsulfolane, methylethyl ketone, cyclopantanone, cyclohexanone, 4-hydroxy-4-methyl-2-pantanone, acetophenone, glutaronitrile, 3,3'-oxydipropionitrile, 2-methoxyethyl ether, triethylene glycol dimethyl ether and combinations thereof.

51. (New) The variable transmission assembly according to claim 1, wherein said cathodic electrochromic compound comprises a viologen or an anthraquinone.

52. (New) The variable transmission assembly according to claim 48, wherein said cathodic electrochromic compound may be selected from the group consisting of ethylviologen perchlorate, heptylviologen styryl sulfonate, distyrylmethylviologen perchlorate, ethylhydroxypropylviologen-perchlorate and combinations thereof.

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53. (New) The variable transmission assembly according to claim 1, wherein said anodic electrochromic compound is selected from the group consisting of phenothiazines, phenazines, metallocenes and combinations thereof.

54. (New) The variable transmission assembly according to claim 53, wherein said anodic electrochromic compound is selected from the group consisting of 2-methyl-phenothiazine-3-one having been previously contacted with a redox agent, 5,10-dihydro-5,10-dimethylphenazine, ferrocene and combinations thereof.

55. (New) The variable transmission assembly according to claim 1, wherein said second conductor coated surface is coated with a metallic reflective coating.
